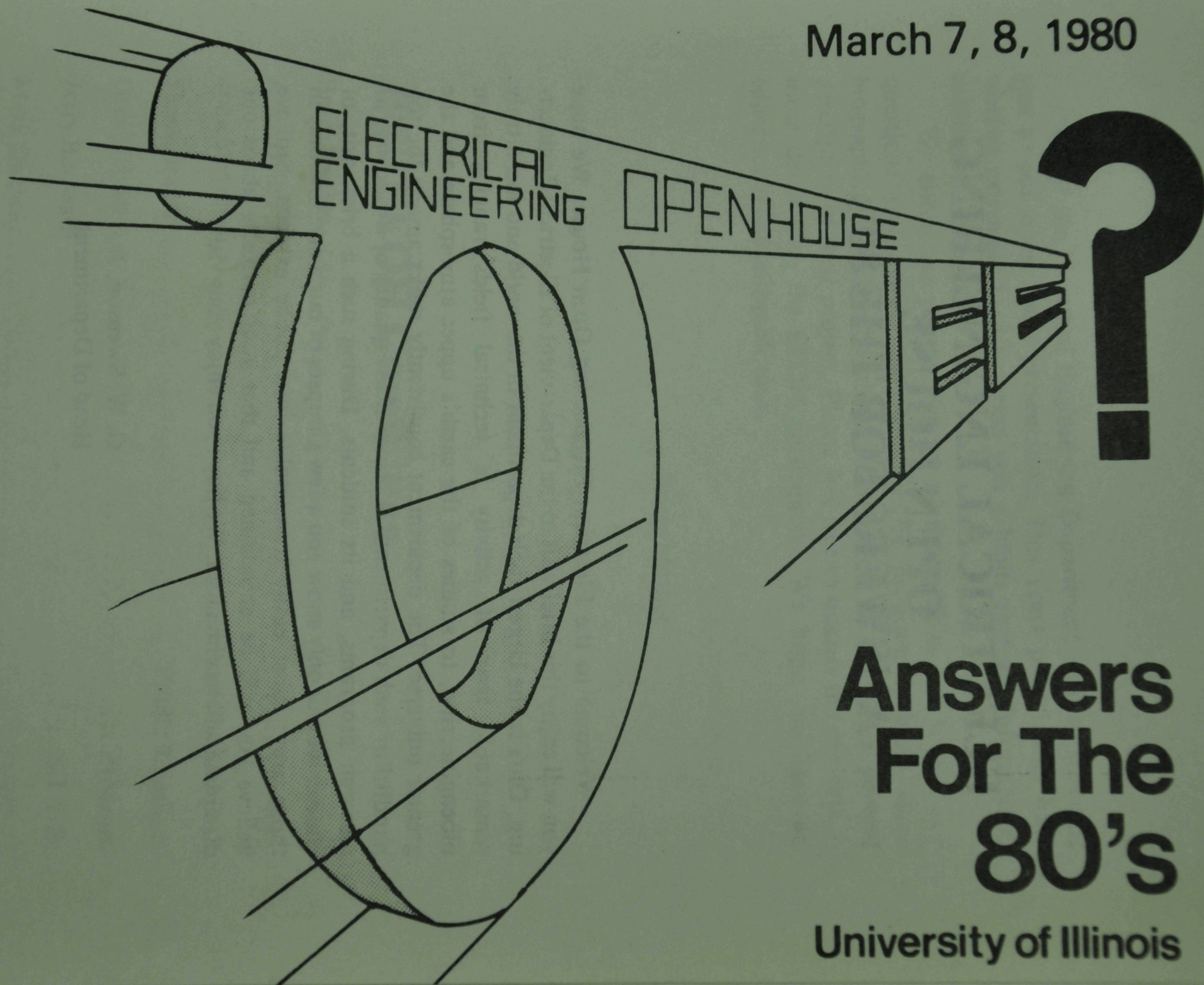


March 7, 8, 1980



Answers For The 80's

University of Illinois

ELECTRICAL ENGINEERING OPEN HOUSE ANSWERS FOR THE 80's

Welcome to the Electrical Engineering Open House. We hope you will enjoy this brief visit to the Department of Electrical Engineering. Ours is the largest such department in the world and has a truly remarkable span of activity in technical fields ranging from bioengineering, to studies of the earth's upper atmosphere and the greater universe. The department consistently ranks among the top handful of such departments in terms of the quality of its faculty, its research programs, and its students. During such a brief visit, of course, we can only show you a few glimpses of our work, and only in those areas most easily translatable into public exhibits. Still we believe you will be entertained and that your curiosity about our discipline will be enhanced. We hope you enjoy your visit!

G. W. Swenson, Jr.
Head of Department

We of the Electrical Engineering Department wish to welcome you to our open house presentation. This years participants have worked extremely hard to bring you exhibits that are informative, creative and even fun.

We encourage you to visit all of the exhibits and to ask any questions you might have. The EEOH program includes some biographical information about each student as well as a general description of their project. Please feel free to discuss the projects in more detail with the EEOH participants. We hope you have an educational and enjoyable tour.

Bruce Mather

1980 EEOH Committee

Bruce Mather.....	Co-Chairman
Anne Delk.....	Co-Chairman
John Gedymin.....	Projects Chairman
Shane Bradley.....	Public Relations
Greg Hebner.....	Program
Jerry Bucksath.....	S.I.T.E.
Mark Duebner.....	Graphics
Prof. Wm. Albright.....	Faculty Advisor

EEOH EXHIBIT LOCATIONS

Electrical Engineering Building

Basement

Electrical Engineering Power Lab
Professor P. W. Sauer
50 N EEB

Come see what college students really do in labs. Some of the projects are a magnetic cannon mass propulsion without combustion and various electric power machinery are displayed. Other experiments are dynamic braking, a strength meter and a floating skillet.

Electrostatics
59 EEB

Various exhibits and projects that show some of the less well known but fun aspects of electrical engineering. Exhibits such as the Telsa Coil and a Vandegraf Generator will make your hair stand on end.

First Floor

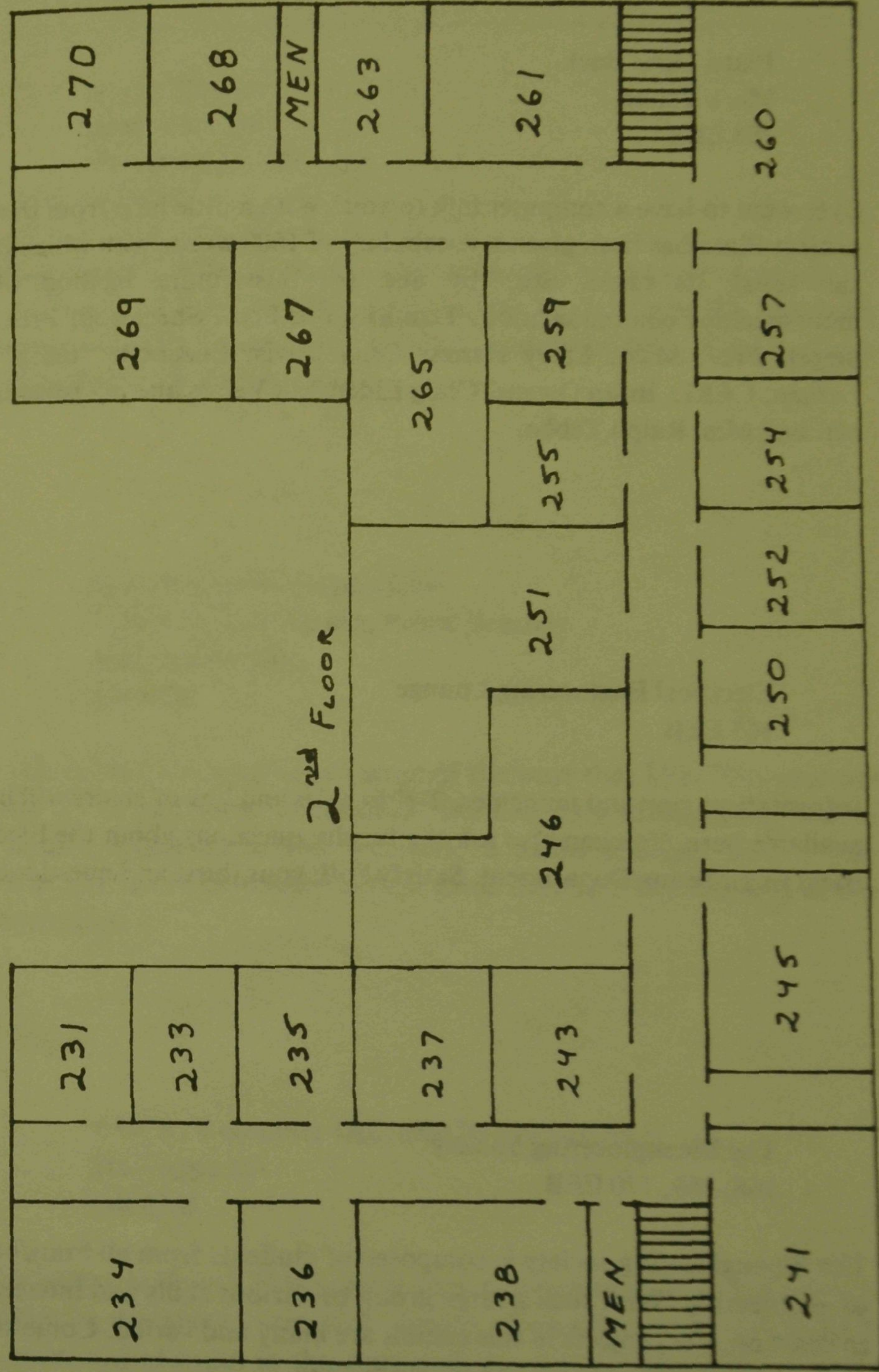
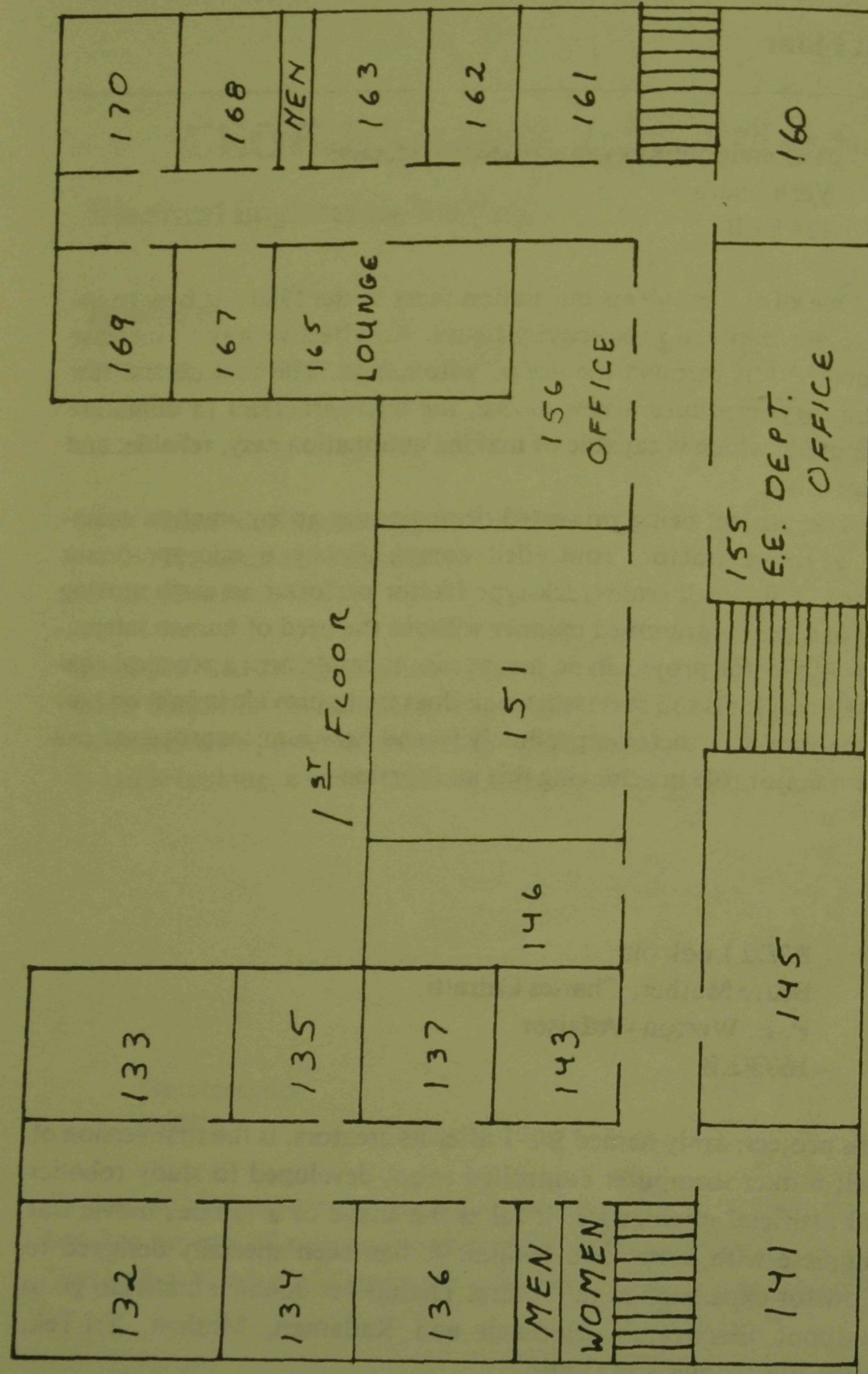
Automation: Key to Increased Productivity
Vern Smith
134 EEB

One of the problems our nation faces in the 1980's is how to increase our national productivity figure. An effective way to increase productivity is through the use of automation. The past decade saw technology introduce a new device, the microprocessor (a miniature computer), which is capable of making automation easy, reliable, and inexpensive.

The project being presented demonstrates an automation example, a robot tractor, controlled completely by a microprocessor system. This small scale track-type tractor performs an earth moving task in a preprogrammed manner without the need of human interaction. While this project in no means tries to implement a practical control system for a full scale tractor, it does try to provide insight on how automation can increase productivity and how a microprocessor can play a major role in achieving this automation.

R2D2 Look out
Bruce Mather, Charles Cairatti
P. E. Weston - Advisor
160 EEB

This project, aptly named BC-1 after its creators, is the first version of itself-a microcomputer controlled robot developed to study robotics and artificial intelligence. It takes the shape of a famous movie star complete with beeps and whines. It has been specially designed to allow for expansion in the future. Thanks for donated materials go to Godbout Electronics, Herbach and Radaman, Meshna, Tri-Tek, Bullet Electronics and Gould.



Plato Talks Back
Mark Tebbe
163 EEB

Ever want to have a computer talk to you? With a little help from this project Plato has been given a vocabulary of 1600 words with which it can speak its mind. Stop by and see this future method of man/machine communication. Thanks go to Prof. Sherwood, Prof. Siegel, Prof. Mast, Larry Hanes, Celia Davis, Elizabeth "tebby" Lyman, CERL, Brian Owens, Craig Elder, Bill Valtos and my parents Mr. and Mrs. Ralph Tebbe.

Electrical Engineering Lounge
165 EEB

Information, pop and munchies, T-shirt sales and lots of chairs will be available here. You can also ask the faculty questions about the Electrical Engineering Department. Satisfy both your thirst and questions.

The Bioengineering Society
168, 169, 170 EEB

The Bioengineering society is composed of students from all branches of engineering. With such a large group of various skills and interests to draw on, the projects in this exhibit are many and varied. Come see how Bioengineering makes the future happen.

Second Floor

Up and Down
John Darragh
Professor Doug Looze
235 EEB

Ever wonder what makes an elevator work? This project takes you inside a microprocessor controlled elevator to show you the principles involved. Stop by and pick a floor. Assistance from Dan Parsons, Billy Rogers, Robert Kohtz.

Synton-Amateur Radio Club
Tom Ask, Jeff Austen, Ralph Brooker
And membership
241 EEB

This exhibit is a sampling of some of the ways that SYNTON explores the art of radio communication. On display and operating will be various transmitters and receivers, a radio teletype, and a new microprocessor controlled Morse Code decoder. The world is at our fingertips.

COPS - Computer Operated Patrol System II
Eta Kappa Nu
246 EEB

Intruders lookout! This project uses a computer controlled robot to patrol a designated area with the aid of an onboard sonar device to detect any changes in the area such as motion. This information is then transmitted to a Horizon computer which calls the real cops.

Communicating in the 80's
251 EEB

Talk on a beam of light with the aid of a fiber optic voice link, use millimeter waves to talk to satellites, explore micro wave technology and equipment, and tune FM stations at the touch of a button. All this and more are examples of modern and future communication methods. The future is here.

Look Mom, No Hands
Gary Zimmerman, Tom Parro
Joseph Rahmeh, Bob Verbiscer
251 EEB

This project uses a microprocessor to control the speed and direction of car as it follows a line on the floor. This could be the future of transportation.

Electrostatic Phono Cartridge
Frank Harwath
260 EEB

Come see this demonstration of an uncommon transducer design and the design process which led to the final product. Could this be the cartridge of the future?

PLATO Music Group
269 EEB

By using a synthesizer under the direction of a computer this project can produce any sound you could imagine. This could be the instrument of future Bach's.

Advanced Digital Systems Laboratory

The advanced digital systems laboratory (ADSL) offers its students a unique experience through the development of projects in the digital systems area. Projects are oriented toward the improvement of the lab itself thereby creating a self-sustaining educational environment. Since our projects are the result of a cooperative effort, we join together in presenting them.

The Hexaphone
ADSL
261 EEB

The Hexaphone is a microprocessor controlled music synthesizer that can perform music using six independent voices. A very simple music language allows anyone to compose or transcribe music to be played by the microprocessor. An organ keyboard will allow the user to perform a musical piece as well as 'transcribe' it directly into the system. The Hexaphone is thus the music instrument of the future.

Archimedes
ADSL
261 EEB

Archimedes is an example of a digital system controlled by a microprocessor. Robots in the 1980's will be increasingly used to relieve man of those tasks which are tedious or unattractive to humans. The microprocessor 'brain' of Archimedes constantly interacts with the outside environment through its versions of touch, sight and sound.

Blockade
ADSL
261 EEB

With the advent of the microprocessor, the electronic game industry has skyrocketed. Now we take you inside our own version of one of them to reveal its inner workings. This game will challenge both you and your opponent as you learn about what is inside an electronic game.

Front Lawn

Wind Generation of Power

Edgar J. Lindow

Front Lawn EEB

This vertical shaft wind powered generator is a useful application of an old principle. Using all of the wind that hits its blades, this exhibit could produce 120 watts. Stop by and see what could be a future energy source.

Thanks to all the tireless people who brought EEOH 1980 to you...

Department Head G. W. Swenson, Jr.

Associate Heads Edward W. Ernst

Oscar L. Gaddy

All the students, faculty and staff of the Electrical Engineering Department.

Paul Dees and Joe Cunningham for typing.

STUDENT GROUPS

IEEE - The U of I branch of the Institute of Electrical and
Electronics Engineers

Eta Kappa Nu - Electrical Engineering Honor Society